MILITARY PERSONNEL PARACHUTE, MAIN
MT-10; T-10, MODIFIED

Updated: April 15, 2021

All parachute assemblies are qualified, manufactured and inspected in strict accordance with current applicable MIL-DTL-6645, MIL-DTL-7567 and MIL-STD-849.

Advanced Troop Back Personnel Main Parachute System
32 feet diameter, steerable

Part no.	MT-10
Complete set	MFG no.: VP2020P03
Canopy (SF-10A)	11-1-7750-1
Risers	11-1-2149-1
Harness	11-1-2143-1
Pack tray	62J4342
Deployment bag	11-1-6994-1
Static line, universal	15-ft: 11-1-6993-1 5-ft: 11-1-6993-2 Snap: 11-1-6991-1

Specifications comparison	MT-10	MC1-1D
Canopy shape	Poly-conical	Parabolic
Canopy diameter [ft]	32, nominal	35, nominal
Number of gores	28	30
Canopy material	PIA-C-44378 Type IV, 0.5-3.0 CFM	PIA-C-44378 Type I, 0.5-5.0 CFM
Standard color	CG483, FG504	CG483
Suspension line material	PIA-C-5040 Type II	PIA-C-5040 Type II
Suspension line length [ft]	21.3	22.0
Suspension line breaking strength [lbf]	400	400
Time for 360° turn [sec]	4 - 5	8 - 9
Assembled weight [lbs]	29.0	29.0
Suspended weight, max. [lbs]	400	360
Deployment altitude, min. [ft. AGL]	500	500
Deployment velocity, max. [KIAS]	150	150
Jump wind speed, max. [kts]	13	13
Rate of descent [fps]	14.5 - 18.5	15.0 - 20.0
Forward speed [kts]	10	8

The MT-10 parachute provides maneuverable capability to safely deliver an airborne soldier and individual equipment from an aircraft in flight for a vertical assault on an enemy. The MT-10 is a highly portable main system, which includes the main canopy assembly, a deployment bag, a pack tray, a harness assembly, risers, and a universal static line. The MT-10 uses the same harness, pack, deployment bag, riders and universal static line that the standard MC1-1D use, to upgrading to the MT-10 means a seamless transition for personnel. Very low permeability air passes through the material PIA-C-44378 Type IV (0.5-3.0 CFM porosity) resulting in slower than normal rate of descent. Softer landings are especially welcomed at high field elevations or with heavy payloads. It is capable of supporting 400 pounds. The MT-10 is limited to operation in winds of 13 knots at surface. The MT-10 is compatible with all current military aircraft used for airborne missions and compatible with ancillary items.

- Robustness; design to all military operation condition using military spec material
- Reliability; extremely reliable with military specifications material
- Steerability; steerable by steering line with two fabric toggles
- Maintainability; easy maintain design for field and depot level
- Tropicalization; tropical weather considered design
- Operability; design for easily operated
- Portability; compact and portable
- Durability; rough military handling
- Design; simple design for easy maintenance
- Life span; fifteen (15) years with minimum two hundred fifty (250) times jump

The MT-10 parachute system was developed to satisfy the high priority airdrop requirement to reduce parachutist injuries in parachuting operations. In a typical combat mission, troops drop from as low as 500 feet AGL (Above Ground Level), and at aircraft speeds between 130 to 150 KIAS (Knots Indicated Airspeed). In this operational profile, rate of descent is highly critical. The MT-10 parachute has a rate of decent of between 14-1/2 and 18-1/2 feet per second depending on the jumper's total weight and drop altitude. This yields a 40 percent reduction in impact energy and is expected to reduce landing injuries significantly. Injuries upon landing reduce the combat effectiveness of the assaulting element and require otherwise combat effective soldiers to assist those injured.

The MT-10 parachute also incorporates an advanced reserve parachute and harness assembly. The harness assembly incorporates the use of comfort pads, an integral equipment release, and adjustability. The MT-10 parachute, during use, is located on the back of the parachutist. Opening of the main canopy is controlled by its shape. The parachute has a forward speed of 10 knots and can complete a complete 360 degree turn in 5 seconds.

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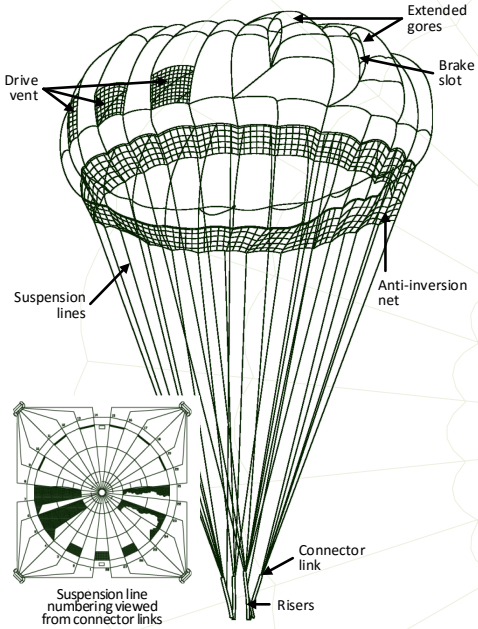
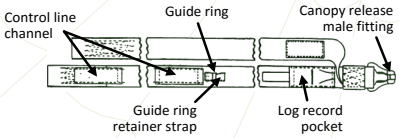
Canopy assembly



The MT-10 main canopy, SF-10A, consists of twenty eight (28) gores as follows:
a. Four (4) panels per gore with the exception of the four (4) extended gores, which consist of seven (7) horizontal and two (2) vertical panels.
b. Four (4) extended gores are located on gores 4-5, 6-7, 21-22, and 23-24. When the jumper pulls either the left or right control line toggle it closes the extended gores, which re-directs the airflow through the opposite extended gores which provides an increased turning capability. A brake slot, reduces forward speed. In full brakes, the canopy can go backwards. The extended gores also facilitate the canopy's ability to perform flat turns by venting air in the opposite direction.
c. Six (6) opening vents located on the front canopy gores 9, 11, 13, 15, 17, and 19 prevent the front of the canopy from collapsing, improving the forward drive and stability of the canopy.
d. Three (3) drive vents located on rear of the canopy with mesh netting sewn into gores 2, 26, and 28, allow for positive airflow through the canopy, which provides the canopy with its forward drive.
e. Main seam runs from the lower lateral band to the upper lateral band and is made using a 1/2 inch wide Type III, nylon tape.
f. The lower lateral band hem is the folded-over lower edge of the canopy, encompassing the lower lateral band.

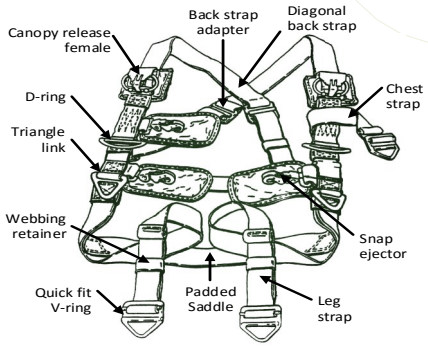
There are twenty eight (28) suspension lines which are 21 feet in length made with Type II, nylon cord and are connected from the suspension line attaching loops on the anti-inversion netting to the connector links.
a. Two (2) lower control lines run from the risers to the attachment point on the middle control lines. The middle control lines attach to the upper control lines, lower control lines, and lower lateral band. Upper control lines attach to the extended gores and middle control lines, providing the canopy with increased response from jumper actions.
b. Fourteen (14) vent lines run continuous from one end of the upper lateral band to the opposite side of the upper lateral band and are constructed of Type II, nylon cord.

Riser assembly



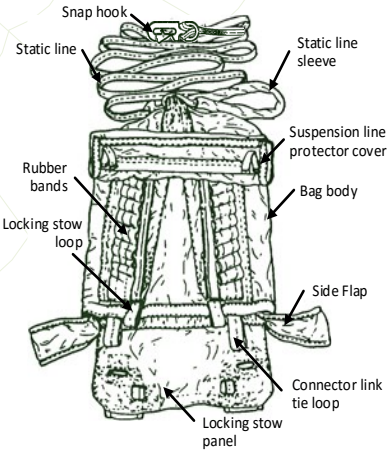
Each of the two (2) riser assemblies is 30 inches long (finished length) and constructed of Type XIII nylon webbing, with the male canopy release fitting permanently attached. The two (2) ends of each riser are attached to the suspension line connector links.

Harness assembly



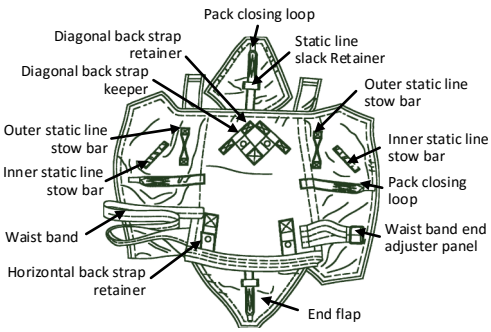
The parachute is attached to the harness assembly, which secures the parachute to the paratrooper before the jump and during the descent. The harness assembly is equipped followings;
Diagonal back strap. Two (2) adjustable strap on diagonal strap attached with both female canopy release and quick fit adapter. Protective padding made of nylon with inner foam pad.
Body strap. Two (2) adjustable body strap with a set of D-ring and a set of triangle link. Two (2) top edges connected to the diagonal back straps by female canopy release. The bottom edge attached to the seat strap by quick ring ejector snap hook.
Chest strap. Two (2) separate straps on the chest straps (left and right). The end of the right strap fixed with a non-adjustable quick ejector hook. The end of the left strap fixed with adjustable ring.
Seat strap. Seat strap is cradle loop type to secure the jumper. It fixed to body strap through link weight attachment. It padded and adjustable. It has quick release mechanism.
Leg Strap. It have a set of strap with quick release mechanism attached. It fixed with nonadjustable, quick ejector snap hook and adjustable V-rings. All metal part is protective padding by material of padding and it made of nylon with inner form pad.

Deployment bag with static line



The deployment bag is constructed of cotton satin cloth.
The two (2) rows of stow loops and reinforcement panels for stowing the suspension lines.
A lock bag closing system with two (2) sets of locking loops and a pane with Velcro® tape.
The two (2) sets of connector link loop with deployment bag.
It has a flap to protect and secure the suspension lines.
These bags differ in the attachment of static line color yellow, standard 15 feet long and universal static line 5 feet long.
The static line has single action snap hook at the end and the other end is tied (or stitched) to deployment bag.

Pack assembly



The pack tray holds the parachute, packed in the deployment bag, to the parachute harness. It is constructed of nylon duck. The waistband is located near the bottom of the pack tray.
The pack tray holds the parachute with four-sided flaps with loops for center-pack tie.
A pair of diagonal back strap retainers, a pair of diagonal back strap keepers and a pair of horizontal back strap keepers fixed.

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